

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

UNITED STATES OF AMERICA,

Plaintiff,

v.

MOTIVA ENTERPRISES LLC,

Defendant.

Criminal Action No. 05-

INFORMATION

The United States Attorney charges:

At all times relevant to this Information:

Introduction

A. Background

1. Defendant MOTIVA ENTERPRISES, LLC. ("MOTIVA") was an oil refining and retail business operation owned by Texaco Inc., Shell Oil Company, and Saudi Refining, Inc.

Defendant MOTIVA refined and marketed gasoline to more than 13,000 Shell-branded and Texaco-branded gasoline stations. The company's assets included, among other things, four refineries capable of refining approximately 860,000 barrels per day. Defendant MOTIVA was the fifth largest refinery operation in the United States. In 2001, defendant MOTIVA generated over \$17 billion in revenue.

2. One of defendant MOTIVA's refineries was located in Delaware City, Delaware (hereinafter referred to as "Delaware City Refinery" or "DCR").

3. Within the Delaware City Refinery, there was an acid tank farm which included six stationary carbon steel tanks, each having a diameter of 47 feet, a height of 32 feet, and a normal

capacity of 415,000 gallons. These tanks, which were originally built in 1979 and located in a common diked area, were used to store fresh and spent sulfuric acid (H_2SO_4). On July 17, 2001, an explosion occurred inside one of these tanks, Tank 393, causing a release of approximately 1.1 million gallons of spent sulfuric acid.

4. Sulfuric acid is a colorless, oily liquid that is very corrosive and reacts chemically with many other materials and substances. Fresh sulfuric acid typically contains 99 percent acid and 1 percent water. Sulfuric acid is listed as an Extremely Hazardous Substance pursuant to 42 U.S.C. § 11002(a)(2). *See* 40 C.F.R. pt. 355, App. A.

5. DCR used sulfuric acid as a catalyst in its alkylation process, in which smaller molecules were combined in the presence of sulfuric acid to form compounds called alkylates, the high-octane components of gasoline. After being used in the alkylation process, the sulfuric acid is considered spent. Spent sulfuric acid typically contains 88 to 95 percent sulfuric acid and up to 5 percent water, with the balance being hydrocarbons, including some flammable hydrocarbons that can vaporize.

6. Spent sulfuric acid from alkylation units, such as the acid in Tank 393, normally contained sufficient flammable hydrocarbons to generate a flammable atmosphere in the presence of oxygen. Because of the presence of hydrocarbons, tanks containing spent sulfuric acid required special precautions, including an inerting system and a flame arrester.

7. The original purpose of Tank 393 was to store fresh sulfuric acid. In March 2000, it was converted to spent acid service, although from time to time it continued to hold fresh sulfuric acid. On July 17, 2001, Tank 393 contained spent sulfuric acid.

1. Events Leading Up to the July 17, 2001 Explosion

8. For the last eight years of its life, Tank 393 had a history of localized corrosion and leaks, including six leaks from June 1998 to May 2001. Four inspection reports generated after September 1999 stated that Tank 393 should be taken out of service as soon as possible for an internal inspection due to tank corrosion and leaks. Nevertheless, the last internal inspection of Tank 393 was conducted in 1994, seven years before the explosion. Although Tank 393 was finally scheduled to be removed from service in February 2001, the schedule was changed and according to defendant MOTIVA's documents entitled, "Tank Program Goals," the removal of Tank 393 was deferred until January 2002 due to "financial constraints."

9. In addition to the problems with tank corrosion, there were problems associated with the conversion of Tank 393 from fresh acid service to spent acid service. When defendant MOTIVA converted Tank 393 from fresh sulfuric acid service to spent sulfuric acid service, defendant MOTIVA did not utilize the Management of Change ("MOC") process. The MOC process would have provided for (a) the review and sign-off on the proposed changes by subject area managers (e.g., corrosion, tank design) and higher level management; (b) the process hazard review; and (c) the pre-startup safety review. To enable the conversion of Tank 393 to spent acid service, defendant MOTIVA issued a work order to its primary on-site maintenance contractor ("Contractor") for the installation of an inert gas blanketing system, flame arrester, and pressure relief vacuum. Defendant MOTIVA's work order did not request engineering analysis or support from its Contractor for the conversion of the tank's service.

10. Besides its failure to utilize the MOC process, the steps that defendant MOTIVA took to convert Tank 393 to spent acid service were inadequate because it failed to: (a) ensure that the inert gas was supplied to the tank through a sealed hard pipe; (b) ensure that the inert gas system

for Tank 393 was equipped with its own regulator; (c) ensure that the common overflow line—connecting the vapor space of Tank 393 to two tanks opened to the atmosphere—was blinded; (d) ensure the structural integrity of Tank 393's roof and roof support system; and (e) ensure that the supply of inert gas to Tank 393 was sufficient to prevent the formation of a flammable gas mixture in the vapor space of the tank. In addition, defendant MOTIVA failed to identify the possible increase of moisture in the tank as the potential cause of the localized corrosion in the shell of Tank 393.

11. As a result of Tank 393's history of significant corrosion and improper conversion, there was a release of spent sulfuric acid vapors, an extremely hazardous substance, into the environment.

12. There were numerous email communications among defendant MOTIVA's employees regarding the problems surrounding Tank 393 and discussing the immediate need to take Tank 393 out of service.

a. On May 30, 2001, at 6:57 a.m., Staff Engineer # 1 sent an email to the Assistant Plant Manager for Operations with the subject header "Tank 393," stating "I saw yesterday's M-21 [non-reportable leak] for Tank 393 and didn't know whether you had any of this additional information." Staff Engineer # 1 attached a weekly tank report that listed Tank 393 as one of the tanks not removed from service due to financial constraints and three inspection reports which recommended taking Tank 393 out of service as soon as possible for an internal inspection due to corrosion on the shell.

b. On May 30, 2001, at 7:56 a.m., the Assistant Plant Manager for Operations sent an email to his immediate subordinate, the Manager for Oil Movements,

Environmental Operations and Transportation ("the Manager") with the subject header "FW: Tank 393," stating "FYH. We must figure out how to get this tank out of service for inspection. The history provided below supports an approach using extreme measures. Develop a plan and then let's review." The Manager did not inquire about or follow-up on this email.

- c. On May 31, 2001, a Process Engineer sent an email to Staff Engineer # 2 with the subject header "Tk 393 Spent Acid Leak," attaching the hydrocarbons release report for the leak on Tank 393 that month and stating that, even though the May 2001 leak was reported to the Delaware Response Center, the leak was not a reportable quantity spill.
- d. On June 1, 2001, Staff Engineer # 2 replied to the May 31 email, stating "Although this leak did not have to be reported to the National Response Center and the Delaware Response Center (less than 66 gallons) the leak was large enough so that it has to be reported internally (greater than 1Bbl.). Once again, repeating the obvious, this tank should be taken out of service and repaired." Defendant MOTIVA's managers and supervisors received carbon copies of this email, but did not inquire or respond to this email.

13. On June 27, 2001, an acid plant operator submitted an unsafe conditions report after he rejected a hot works permit on the acid tank catwalk because of high flammable vapor readings. The report outlined some of the problems with Tank 393's inerting system and stated the tank farm needed immediate attention. A member of defendant MOTIVA's Fire and Safety Department attempted to investigate the report, but was unable to do so due to the severe spent

acid vapors and poor lighting in the tank farm. Thereafter, there was no follow-up investigation of the unsafe conditions prior to the July 17, 2001 explosion.

2. The July 17, 2001 Explosion

14. Beginning in late May 2001, the Contractor's boilermakers were repairing a weakened and corroded catwalk at the acid tank farm. The catwalk was located at the roof level of these tanks and connected the tanks to each other. Tank 393 was located at the northeast corner of the acid tank farm, with Tank 396 approximately 25 feet to the west. Tank 393 had several holes due to the corrosion in the tank roof and shell that were adjacent to the catwalk.

15. On July 17, 2001, four of the Contractor's boilermakers received their assignment to work on the catwalk repair job. The work plan was to cut out corrosion-damaged sections of grating and to replace them by welding new sections into place. Defendant MOTIVA approved a hot works permit which allowed the boilermakers to "burn/weld & grind" on the grating at Tank 396. The hot works permit did not indicate that "spark containment" was required for the authorized grating repair work.

16. During the afternoon of July 17, 2001, flammable vapors from Tank 393 reached a heat source. This resulted in an explosion inside Tank 393 which caused it to separate from its foundation pad and to collapse toward the north, pulling down the catwalk. At the time of the explosion, there were two boilermakers doing repair work on the catwalk at Tank 393. One of the boilermakers was on the portion of the catwalk that was pulled down as Tank 393 collapsed and was consumed in the explosion. The other boilermaker was able to escape by running away from the explosion on the catwalk, but suffered serious bodily injuries. Eight other workers were injured due to the smoke and acid vapors while trying to escape from the explosion and collapsing tank.

17. The explosion caused Tank 396 to release its contents as well, with flammable material burning on top of the acid which then overwhelmed the dike diversion system and flowed up through the grating on the streets outside the dike. Approximately 99,000 gallons of sulfuric acid spilled into the Delaware River, resulting in approximately 2,500 dead fish and 250 dead crabs.

B. The Clean Air Act

18. The Clean Air Act ("CAA"), 42 U.S.C. § 7401 *et seq.*, is the Nation's comprehensive air pollution control statute. The purpose of the CAA is "to protect and enhance the quality of the nation's air resources." 42 U.S.C. § 7401(b)(1); *see also* 42 U.S.C. § 7470.

19. Under the Clean Air Act, the negligent release of an extremely hazardous substance into the ambient air which, at the time of the incident, negligently places a person in imminent danger of death or serious bodily injury carries a criminal penalty. 42 U.S.C. § 7413(c)(4).

C. Clean Water Act

20. The Federal Water Pollution Control Act, commonly known as the Clean Water Act ("CWA"), 33 U.S.C. § 1251 *et seq.*, was enacted by Congress to restore and maintain the chemical, physical, and biological quality of the Nation's waters. 33 U.S.C. § 1251(a). In addition, the CWA was enacted to prevent, reduce, and eliminate water pollution in the United States and to conserve the waters of the United States for the protection and propagation of fish and aquatic life and wildlife, recreational purposes, and the use of such waters for public drinking water, agricultural, and industrial use. 33 U.S.C. § 1252(a).

21. The CWA prohibits the discharge of any pollutant into waters of the United States, except in compliance with a permit issued pursuant to the CWA under the National Pollution

Discharge Elimination System ("NPDES") by the United States Environmental Protection Agency ("EPA") or an authorized state. 33 U.S.C. §§ 1311(a) and 1342. Among other things, such permits designate the location of authorized discharges and the types of pollutants which may be discharged. NPDES permits also contain numerical limits on the quantity of pollutants which may be discharged on an established frequency. The EPA has authorized the State of Delaware to issue NPDES permits.

22. The Delaware River is a water of the United States within the meaning of 33 U.S.C. § 1362(7) and 40 C.F.R. § 122.2.

23. Under the CWA, the knowing and negligent discharge of a pollutant from a point source into a water of the United States in violation of a NPDES permit carries a criminal penalty. 33 U.S.C. §§ 1319(c)(1)(A) and (c)(2)(A).

24. On July 17, 2001, defendant MOTIVA had a NPDES permit issued by the State of Delaware authorizing it to discharge certain pollutants into the Delaware River from designated locations known as "outfalls." The permit also required defendant MOTIVA to perform monitoring of its wastewater on a periodic basis at various locations at the DCR and to report all monitoring data to the Delaware Department of Natural Resources and Environmental Control ("DNREC").

25. Outfall 001 was the actual entry point into the Delaware River for discharges from the DCR. The NPDES permit set numerical limits on the discharges at this location for various parameters, including pH, a measure of acidity of the wastewater. The permit also set numerical limits on other parameters measured at outfall 601, the monitoring point for wastewater leaving the DCR's wastewater treatment plant. These parameters included biochemical oxygen demand ("BOD"), total organic carbon ("TOC"), total suspended solids ("TSS"), and oil and grease.

Wastewater from the treatment plant eventually mixed with other wastewater at outfall 001 for discharge into the Delaware River.

26. The explosion and subsequent release of sulfuric acid from various tanks resulted in acid soaking into the ground and flowing into the DCR's waste water treatment and other locations leading to outfalls 601 and 001.

1. Outfall 601

27. Sampling conducted by defendant MOTIVA showed that it exceeded the following daily maximum concentration permit limits for outfall 601 on the following as measured in milligrams per liter (mg/l) and shown as permit limit/actual:

<u>DATE</u>	<u>BOD</u>	<u>TOC</u>	<u>TSS</u>	<u>OIL & GREASE</u>
July 19, 2001	44/106	75/103		
July 20, 2001	44/133	75/165	43/117	13/18
July 21, 2001	44/76	75/100		
July 22, 2001	44/68			
July 23, 2001	44/53			

28. Sampling conducted by defendant MOTIVA showed that it exceeded the following daily maximum loading limit for outfall 601 on the following days as measured in pounds per day and as shown as permit limit/actual:

<u>DATE</u>	<u>BOD</u>	<u>TOC</u>	<u>TSS</u>
July 19, 2001	3326/7752	5655/7581	
July 20, 2001	3326/9321	5655/11,546	3218/8182

July 21, 2001	3326/4465	5655/5855
July 22, 2001	3326/4744	
July 23, 2001	3326/3819	

2. Outfall 001

29. Immediately following the July 17, 2001 explosion, effluent containing spent sulfuric acid flowed into sewers leading to DCR's waste water treatment plant ("WWTP"), as well as to other sewers eventually leading to outfall 001 to the Delaware River. The WWTP had two "trains" through which effluent flowed for treatment prior to discharge to outfall 001 to the Delaware River. The effluent initially overwhelmed the WWTP and began to kill the biomass used to treat DCR's wastewater.

30. Defendant MOTIVA initially attempted to route the effluent into designated spill diversion tanks. After the tanks were filled to capacity, defendant MOTIVA decided to direct the effluent back to the WWTP.

31. For a period of days following the July 17 incident, defendant MOTIVA sent acid-containing effluent through the first train of the WWTP for treatment prior to discharge. However, in order to prevent more serious damage to the WWTP, and to avoid further harm to the biomass, defendant MOTIVA decided to close and isolate the second "train." Due to the large quantities of effluent and the operation of only half of the WWTP, defendant MOTIVA had to reduce the residence time for effluent flowing through the first train. As a result, the effluent was insufficiently treated in the WWTP prior to being discharged at outfall 001.

32. After the explosion on July 17, 2001, and pursuant to a July 18, 2001 order issued by DNREC, defendant MOTIVA performed sampling every half hour to measure the pH of the

discharge from outfall 001 into the Delaware River. Defendant MOTIVA's NPDES permit required the discharge to have a pH between six (6) and nine (9) standard units ("SU") (seven (7) SU is neutral on the pH scale). Defendant MOTIVA's sampling showed that its discharge fell below the minimum six (6) SU on repeated occasions on July 18, 2001, with values as low as 2.2 SU.

COUNT 1

(Violation of the Clean Water Act)

33. Paragraphs 1 through 17 and 20 through 32 of this Information are hereby realleged and incorporated as if fully set forth herein.

34. On or about July 18, 2001, in the District of Delaware and elsewhere, defendant

MOTIVA ENTERPRISES, LLC,

knowingly caused the discharge of a pollutant from a point source into a water of the United States, by knowingly causing insufficiently treated wastewater containing sulfuric acid and other substances to discharge from outfall 001 into the Delaware River, a water of the United States, in violation of its NPDES permit.

In violation of Title 33, United States Code, Sections 1311, 1319(c)(2)(A), and 1342 and Title 18, United States Code, Section 2.

COUNT 2

(Violation of Clean Air Act)

35. Paragraphs 1 through 19 of this Information are hereby realleged and incorporated as if fully set forth herein.

36. On or about July 17, 2001, in the District of Delaware and elsewhere, defendant

MOTIVA ENTERPRISES, LLC

negligently released into the ambient air sulfuric acid vapors, an extremely hazardous substance listed pursuant to Section 302(a)(2) of the Superfund Amendments and Reauthorization Act of 1986, and at the time of release negligently placed another person in imminent danger of death or serious bodily injury.

In violation of Title 42, United States Code, Section 7413(c)(4) and Title 18, United States Code, Section 2.

COUNT 3

(Violation of the Clean Water Act)

37. Paragraphs 1 through 17 and 20 through 32 of this Information are hereby realleged and incorporated as if fully set forth herein.

38. On or about July 17, 2001, in the District of Delaware, and elsewhere, defendant

MOTIVA ENTERPRISES, LLC

negligently caused the discharge of a pollutant from a point source into a water of the United States, by negligently causing sulfuric acid and other substances to discharge from the acid tank farm into the Delaware River, a water of the United States, in violation its NPDES permit.

In violation of Title 33, United States Code, Sections 1311, 1319(c)(1)(A), and 1342 and Title 18, United States Code, Section 2.

RICHARD G. ANDREWS
Acting United States Attorney

By: 

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THOMAS L. SANSONETTI
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Environment & Natural Resources Division

By: 

Mark Kotila
Senior Trial Attorney

Dated: 3-16-05

Epin Christensen
Trial Attorney

And Now, this ____ day of February 2005, the foregoing Information is hereby (accepted) (rejected) by this Court.

United States District Judge